

CLAIMS:

1. A transflective liquid crystal display device (11, 21), comprising a plurality of pixels, each comprising a liquid crystal layer (12, 22), being sandwiched between front and back electrode means (13, 23; 14, 24) as well as front and back polariser means (17a, 27a; 17b, 27b), characterized in that an optical $\lambda/4$ layer (16a, 26a) at least partly is arranged
5 between said front polariser (17a, 27a) and said liquid crystal layer (12, 22), and said liquid crystal layer (12, 22) is a liquid crystal layer having a twist angle essentially within a range ± 80 - 100° , such as 90° .
2. A liquid crystal display device as in claim 1, wherein said optical $\lambda/4$ layer
10 (16a, 26a) is a wide band $\lambda/4$ layer.
3. A liquid crystal display device as in claim 1 or 2, wherein each of said pixels are subdivided into a transmissive and a reflective sub-pixel (11a, 11b), respectively, whereby said optical $\lambda/4$ layer (16a) essentially only covers said reflective sub-pixels (11b),
15 thereby constituting a patterned $\lambda/4$ foil.
4. A liquid crystal display device as in claim 1 or 2, wherein said back electrode means (26b) is a semitransparent reflecting electrode essentially covering the entire pixel area.
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5. A liquid crystal display device as in claim 3, wherein a cell gap of a transmissive sub-pixel (11a) is essentially larger than a corresponding cell gap for a reflective sub-pixel (11b).
- 25 6. A method of generating a patterned $\lambda/4$ foil comprising the following steps:
depositing a reactive liquid crystal layer (16a) on a substrate,
applying a mask, covering parts of the display corresponding to transmissive parts of the display, while
revealing parts corresponding to reflective parts,

photo-polymerizing said reactive liquid crystal layer, through said mask removing non-reacted liquid crystal material.

7. A method of generating a patterned $\lambda/4$ foil comprising the following steps:
5 depositing a reactive liquid crystal layer (16a) on a substrate,
applying a mask, covering parts of the display corresponding to transmissive parts of the display, while revealing parts corresponding to reflective parts,
performing a first photo-polymerization exposure of said reactive liquid crystal layer, while keeping the reactive liquid crystal layer at a first temperature,
10 performing a second photo-polymerization exposure of the reactive liquid crystal layer, while keeping the reactive liquid crystal layer at a second temperature,
whereby one of said photo-polymerization exposures are made through a mask, being applied on said reactive liquid crystal layer.
- 15 8. A method in accordance with claim 7, whereby said first and second temperatures is so chosen that the reactive liquid crystal layer is in a nematic liquid crystal phase at said first temperature, and at a temperature above a clearing point of said liquid crystal material.
- 20 9. A method of generating a patterned $\lambda/4$ foil comprising the following steps:
depositing a reactive liquid crystal layer (16a) on a substrate,
providing a patterned orientation layer, corresponding to the desired patterned $\lambda/4$ foil.
- 25 10. A method in accordance with claim 9, wherein said patterned orientation layer is generated by means of photo-alignment.